GREEN HOMES CHALLENGE
FREDERICK COUNTY, MARYLAND

CHALLENGE 1
Be a Power Saver!

POWER SAVER
HANDBOOK

Frederick County Office of Sustainability
and Environmental Resources
Ensuring Our County's Future

A sustainable community starts at home . . .

FREDERICK COUNTY, MARYLAND
1748

Frederick County Green Homes Challenge
Power Saver Handbook

Frederick County Office of Sustainability and Environmental Resources (OSER)

Shannon Moore, Manager
Lisa Orr, Sustainability Program Coordinator
Sabrina Harder, Green Homes Program Coordinator

30 North Market Street Frederick, MD 21701
Phone: 301.600.7414 Fax: 301.600.2054 • Email: GreenHomes@FrederickCountyMD.gov
www.FrederickCountyMD.gov/GreenHomes

Table of Contents

GREEN HOMES CHALLENGE
FREDERICK COUNTY, MD

Green Homes Challenge Overview

What is the Green Homes Challenge?

The Green Homes Challenge is a Frederick County initiative that guides, rewards, and recognizes households for saving energy, adopting green lifestyle practices, and using renewable energy.

Three corresponding Challenges make up the overall Green Homes Challenge.

Challenge 1: Be a Power Saver!

Challenge 2: Be a Green Leader!

Challenge 3: Be a Renewable Star!

Is the Green Homes Challenge a good fit for my household?

Are you concerned about:

- Rising energy costs or utility bills?
- Declining quality of life for your children and grandchildren?
- The impacts of climate change or environmental degradation?
- Our national energy supply and security?

If so, it is time to turn that concern into personal action right in your own home. Your household's energy use and routine living habits do make a difference!

New technologies, government policies, and building codes may take years to generate significant outcomes, but saving energy is something all of us can do in our homes right now.

The Green Homes Challenge will support and incentivize you every step of the way! Whether you've been held back by a lack of information, financial resources, or personal motivation… whether you prefer to do-it-yourself or work with a mentor or group… whether you want to certify your home or not… the Challenge has everything you need to take action.

Challenge 1: Be a Power Saver!

Save Our Energy, Bank Your Money!

Use the Power Saver Handbook to implement these energy saving actions:

1) Become more power-aware.
2) Attend a Powerware Party.
3) Conduct a home energy audit.
4) Create your Energy Saving Action Plan, based on the results of your home energy audit.
5) Complete your Energy Saving Action project.
6) Track your energy savings.

Benefits

- Take advantage of rebates and incentives for home energy audits and energy efficiency upgrades.
- Connect with others striving to save money and energy; give and receive encouragement, resources and support!
- Make your home more comfortable and valuable; enjoy energy and utility bill savings for years to come!

Challenge 2: Be a Green Leader!

Green Your Household, Protect Our Resources!

Use the Green Leader Handbook to learn about green lifestyle practices your household can implement in these categories:

- Food
- Indoors & Cleaning
- Home Office
- Waste Management
- Water Conservation
- Outdoors & Yard
- Transportation

If interested, create or join a Green Team to stay motivated and on target.

Benefits

- Reap the health benefits of a greener household.
- Connect with and motivate others to stay on the path to environmental sustainability.
- Contribute to our community's high quality of life!

Challenge 3: Be a Renewable Star!

Renew Your Energy, Clear Our Air!

Use the Renewable Star Handbook to learn how to:

- Purchase carbon off-sets,
- Buy Renewable Energy Credits (RECs) or electricity from renewable sources, or
- Install a renewable energy system in your home.
- Find out which systems are best suited and most cost-effective for your home.
- Learn about local, state, and federal incentives that make installing renewable energy systems affordable.

Benefits

- Enjoy energy and utility bill savings for years to come.
- Bask in the knowledge that you're saving energy for future generations and driving the nation's energy market in a sustainable direction!

Plus... Incentives, Prizes, and Public Recognition for Each Challenge!

More About Certification and Recognition

Certification

Green Homes Challenge certification serves two purposes:

1. Certification motivates households to continue making improvements and reach a goal.
2. Certification also provides a way to recognize front-runner households that have already taken action.

Green Homes Challenge Certification is optional; educational, incentive, and program components are available to all regardless of a household's interest in certification.

Households earn certification by completing steps and actions outlined in the corresponding Power Saver, Green Leader, and Renewable Star Handbooks. The Handbooks serve as your step-by-step guide for each of the three Challenges and include online resources, links to how-to videos, and catalogs of actions you can take to green your home and your wallet! Those households that have already taken many "green" actions can use the Challenge Handbooks to document their actions and submit forms for certification, recognition, and prizes.

Incentives and Recognition

In addition to the financial, health, and community benefits of greener homes, once a household is certified at any level, they are eligible for recognition awards and incentive prizes that may include gift cards or drawings for high-value prizes. Every certified household will have the opportunity to be recognized by public officials; they may also have opportunities for media interviews and profiling in printed publications, web pages, or even TV shows. Certified households will also receive window decals and/or yard signs that designate their certification levels and inspire others to follow their lead!

Challenge 1:
Be a Power Saver

Challenge 1: Be a Power Saver!

Save Our Energy, Bank Your Money!

Why take the Power Saver Challenge?

- Reduce utility bills and save money!
- Improve the comfort, value, and durability of your home!
- Do the right thing for your kids', country's, and planet's future!
- Be recognized and inspire others!
- Earn special incentives and prizes!

What's Involved?

- Learn about your household's energy use,
- Assess your home's performance with a home energy audit and make a plan,
- Implement energy saving projects and actions, and
- Track your energy use and savings!

Challenge 1: Be a Power Saver!

According to the U.S. Energy Information Administration (EIA), buildings are responsible for 41% of all energy consumption and greenhouse gas emissions annually, and the residential sector alone accounts for 22%. The Power Saver household featured on page 9 demonstrates that, with minimal to moderate investment, achieving significant energy savings is possible. While saving 10,000 kWh per year may not be feasible for every household, when energy savings of just 1,000 kWh are multiplied by 115 million U.S. households (2010 Census estimate), the impact is tremendous and supports the claim that energy efficiency is one of the most cost effective ways to tackle our nation's energy, economic, and environmental challenges.

If the estimated 87,000 households in Frederick County each saved just 1,000 kWh per year, that savings would be enough to power nearly 10 % of households in the County (8,267 households based on EIA's average usage for U.S. homes).

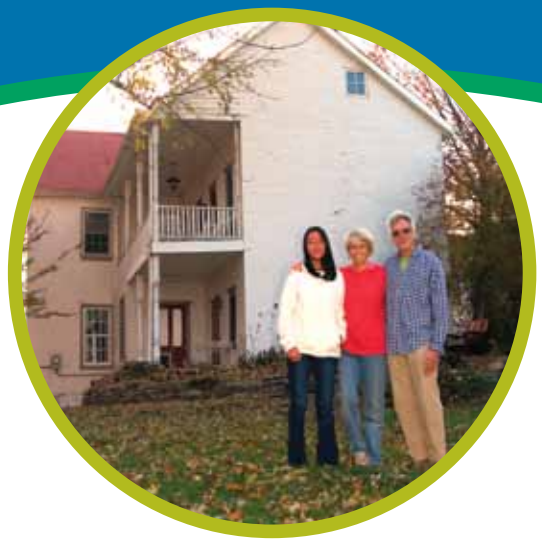
If every household in the nation saved 1,000 kWh/year, the energy savings would be enough to power 11 million households! That's more than all the households in Maryland, Pennsylvania, Virginia, West Virginia and Delaware combined!

Saving energy is something every one of us can do in our homes right now! Lessen the impact of rising energy costs and reap the financial benefits of energy savings that add up year after year, a guaranteed return on investment.

Get started today! Make a difference and Be a Power Saver!

Already an Energy Saver?

If you think your household is already an exemplary energy saver, and you've already had a Home Energy Audit, you can use the Challenge to certify your home, be recognized, and earn rewards. Register with the Green Homes Challenge, check off actions already taken that total 50 Green Points, and submit your certification form (Appendix B).



Meet Some Frederick County Power Savers

42% Savings over 6 Years

A few years ago, this Frederick County household decided it was time to stop thinking like energy conscious citizens and start acting like them. For years they had known about the things they should be doing, but were they actually doing them? No! They had busy lives and becoming more energy efficient did not require them to be someplace or do something by a certain time, so they just never got around to it.

They lived in a 2,400 sq. ft. 1850's brick house with electric baseboard heat in each room, spotty insulation, and very drafty windows; they knew they had some big challenges, but they began with the basics:

1. They replaced all light bulbs with CFLs, put up a clothes line, insulated their hot water heater and pipes, and turned down the water temperature to 120 degrees;

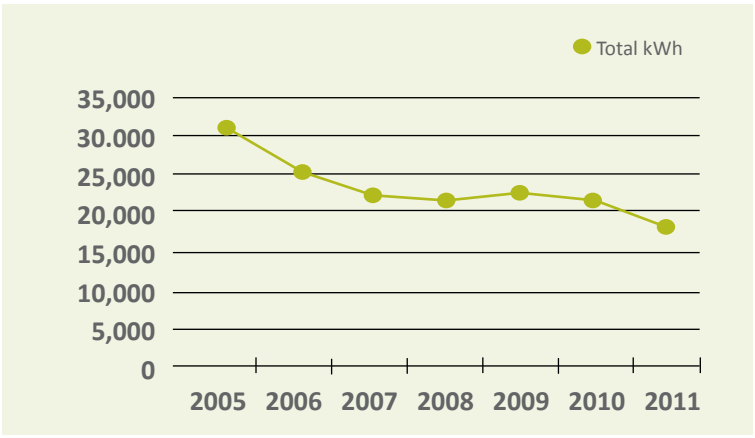
2. They invested in an energy efficient refrigerator, ceiling fans, and insulation upgrades in their attic and basement;

3. They installed water-saving devices like a low-flow showerhead and a dual flush toilet conversion kit; and

4. They changed their behaviors –

   - While their TV and computer system had always been plugged into power-strips, they turned them all the way off every single night;
   - They hung all their laundry to dry outside in good weather and inside in bad. They used the dryer for just a few minutes to eliminate wrinkles in shirts and scratchiness in towels, and hangers as mini-clotheslines to economize on space.
   - To get around the uncertainty of estimated meter readings, they read their power meter each month and called it in to their utility. They tracked and graphed their monthly energy use and costs in a spreadsheet.

After one year their annual kilowatt hour (kWh) total was down 17%; after two years it was down more than 30%. By the sixth year, it was down 42%. Over the six years, they had saved the equivalent of 2.5 years of average energy use and nearly $4,000 even though energy rates began increasing in 2008.



Getting Started

Becoming a Power Saver with the Green Homes Challenge involves taking a number of steps over a period of time. Some of them are fun, some are educational, and some may require trips to the hardware store and do-it-yourself projects. It's a great family learning activity and a way to engage your children and teach some good lessons along the way. The steps are organized in a progressive fashion, but you don't have to do them in order, nor do you have to take every action in each step! A few actions are required for Power Saver Certification, but you can pick and choose your remaining items to earn the 50 Green Points needed for certification.

Power Saver Steps

1 Register and Become More Power-Aware
2 Prepare for Your Home Energy Audit
3 Schedule and Conduct Your Home Energy Audit
4 Complete Your Home Energy Action Plan & Project
5 Track Your Energy Use
6 Implement Additional Energy Saving Actions
7 Volunteer & Leadership Options and Bonuses
8 Submit Your Power Saver Certification Form!

Of the three Green Homes Challenges, Power Saver is the most challenging one to complete but it may generate the most rewards and savings for your household! You won't be able to complete it in a week; for some really motivated people it might take as little as a month or two, for others it may take a year! It's not a race. Our goal is to provide enough structure, support, and follow-up to help you stay motivated and on track-- we understand that all your household members are engaged in lots of other pressing matters and activities! Take it one step at a time, and if you ever have questions or need help, contact the Green Homes Challenge Coordinator at GreenHomes@FrederickCountyMD.gov or 301.600.7414.

The Most Efficient Way to Use your Handbook

One great thing about this Power Saver Handbook is that it links you to dozens of online resources, tools, and how-to videos. But those resources won't be very handy if you are using the hard-copy version of the Handbook alone. Even the most dedicated won't enjoy typing long URLs into their web browser. To get the most out of your Handbook, use it in tandem with the online Power Saver Handbook so you can simply click on the links to helpful tools, resources, and videos. You can open or download the online Power Saver Handbook at www.FrederickCountyMD.gov/GreenHomes.

Symbols used in the Power Saver Handbook

A stamp denotes a Required Action for Power Saver Certification.

Green leaves denote the number of Green Points earned for Power Saver steps completed, and the relative environmental benefit of the energy saving actions in the catalog.

Hammers denote the relative amount of effort needed to implement an energy saving action in the catalog.

Dollar signs denote the relative cost of implementing an energy saving action.

FREE No cost $ <$100 $ $ $100 - $500 $ $ $ $501 - $2,000 $ $ $ $ >$2,000

Power Saver Steps

Step 1:

Register and Become More Power-Aware

Signing up will make you more likely to stay engaged and informed. Getting started and learning with others is motivating and just more fun!

Total points available: 3

Register with the Green Homes Challenge

Fill out and submit the Green Homes Challenge Power Saver Registration Form in Appendix B or online at *www.FrederickCountyMD.gov/GreenHomes* or *www.tinyurl.com/ca7m9b9*.

GREEN POINTS 1

Take the Green Homes Challenge Pre-Survey

This online survey will inform you about your level of awareness and action in the areas of energy, green living practices and renewable energy. This is an important required step; by taking this survey you'll be helping to evaluate the effectiveness of the Green Homes Challenge! Take the survey at *www.FrederickCountyMD.gov/GreenHomes* or *www.tinyurl.com/3c86c2v.*

GREEN POINTS 1

I/we completed this step on

_____.
<date>

_____
Pre-Survey Score

Attend a Powerware Party

At these small group gatherings, you will become more "power-aware" through activities, demonstrations of energy saving devices, and discussions about how to save energy and money at home. Powerware Parties are offered regularly at Winchester Hall, 12 East Church Street, downtown Frederick. Check the online schedule at *www.FrederickCountyMD.gov/GreenHomes* or *www.tinyurl.com/7o9hgct* or call the Green Homes Challenge Coordinator at 301.600.7414 for dates and times.

In addition to the regularly scheduled meetings, you can host a Powerware Party for friends, co-workers, or neighbors. Party hosts receive special incentives and extra Green Points toward Power Saver Certification (see Appendix A for details).

GREEN POINTS 1

I/We completed this step on

_____.
<date>

Step 2:

Prepare for Your Home Energy Audit

Learning more about home energy audits and assessing your current energy use will motivate you to be more engaged in the process and more interested in the outcome.

Total points available: 2

Learn what to expect and how to prepare for your home energy audit

GREEN POINTS 1

The home energy audit is the best way to learn how you can save energy in your home and stop wasting money on utility bills that are higher than they need to be. To learn what to expect and how to prepare for the audit, go to the Energy Circle website, *www.energycircle.com/learn/home-energy-audits* and read the following topics:

- What to Expect from Your Home Energy Audit
- How to Prepare for your Audit
- Auditor Distinctions: Exclusive Auditor vs. Comprehensive Contractor
- Finding a Home Energy Auditor: The Questions to Ask
- Guide to Energy Audit Certification

DOE Energy Savers also has information for preparing for a home energy audit and how the different assessment tests work. Read about it at: *www.tinyurl.com/mz6tm2*

I/We completed this step on _____.
<date>

Try out some great online home energy analyzers

GREEN POINTS 1

Potomac Edison's Home Energy Center Online Analyzer: This web-based self-service option presents you with home efficiency and conservation recommendations for managing your energy costs. Upon completion, you have the option of receiving a reward of four CFLs!

www.firstenergycorp.com/save_energy/home_energy_analyzer.html

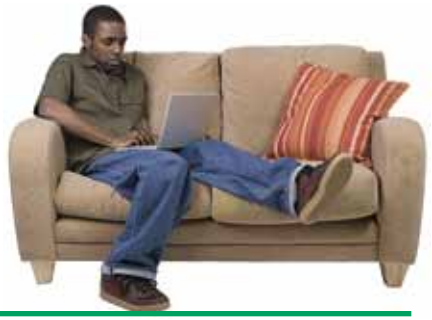
The Energy Guide: provides a Fast Track and an In Depth Analysis of your energy use, providing you with pinpointed recommendations on what to do to begin saving energy now. You can also calculate how much money you can save by replacing appliances.

www.energyguide.com/audit/haintro.asp

I/We completed this step on _____.
<date>

ENERG STAR® Yardstick: If you have five minutes and your last 12 months of utility bills, use the ENERGY STAR® Home Energy Yardstick to compare your home's energy efficiency to similar homes across the country and get recommendations for energy-saving home improvements from ENERGY STAR®. You will also need to enter some basic information about your home (such as zip code, age, square footage, and number of occupants). If you don't have your bills, contact your utility for a 12-month summary.

ENERGY STAR® Yardstick: *www.tinyurl.com/22udoks*



Step 3:

Schedule and Conduct Your Home Energy Audit

A home energy audit is the best way to find out how your home is currently performing and the best place to start making energy saving improvements.

Total points available: 3

Choose the type of audit you want

There are several options for conducting your home energy audit including working through the Potomac Edison Home Performance program, hiring a professional auditor, or doing it yourself. Make your selection below:

Professional Energy Audit Options:

- Quick Home Energy Check-Up: This audit provides an in-home walk-through consultation and report. A Building Performance Institute (BPI) certified auditor approved by Potomac Edison will survey your home's insulation, duct work, water heating, cooling and heating systems, and overall efficiency. Thanks to EmPower Maryland, there are no additional fees for this audit and you will receive a kit of energy saving devices. Call 1.888.267.4685 to schedule an audit.
- Home Performance with ENERGY STAR® Audit: In addition to the walk-though consultation by a BPI certified auditor and kit of energy saving devices, the audit includes additional testing and analysis, such as a blower door test and thermal imaging. The value of this audit is $500, but thanks to the EmPower Maryland program, residents are only charged $100 (minimum). Call 1.888.267.4685 to schedule an audit. For additional program information and a list of approved auditors, visit *www.energysavemd.com*.

  Note: If you have an electric heating or cooling system, be sure to inquire about the 50% rebate, up to $2,000, for air sealing, duct sealing and insulation, or insulation and window costs! You auditor will need to fill out the rebate application.

- You may prefer to research and select your own auditor. You can use *www.LeafKey.com*, Maryland Home Performance with ENERGY STAR® *www.mdhomeperformance.org*, or a general search to find an auditor serving Frederick County.

Do-It-Yourself Options:

If you are handy and prefer to do things yourself, you can conduct your own home energy audit.

Here are some options:

- Follow the steps in The Carbon Contest's DIY Energy Audit which will guide you on a home inspection tour from the exterior to the interior and from bottom to top: *www.tinyurl.com/2d4vwx5*
- Follow DOE's Energy Savers guidelines for a DIY Home Assessment: *www.tinyurl.com/m2dh2a*

GREEN POINTS 3

Set the date and complete the audit.
My/our audit is scheduled for

_____
<date>
with

_____
<auditor/ company name>

Step 4:

Complete Your Energy Saving Action Plan and Project

Energy Audits by themselves don't save energy! It's time to plan and take action!

Total points available: 4

Complete Your Energy Saving Action Plan

After discussing your home energy audit findings with your auditor, identify one priority home improvement project that will result in significant energy and utility bill savings for your household. This should be a project your household could commit to completing in the next 6 months.

Document the information on Your Energy Saving Action Plan form in Appendix B. Include additional actions you would like to complete over the next year. If you need help installing the energy saving devices provided by your home energy auditor, please note that on the form as well and contact the Green Homes Challenge Coordinator at 301.600.7414 or GreenHomes@FrederickCountyMD.gov.

GREEN POINTS 1

I/we completed our Energy Saving Action Plan on

_____.

<date >

My/our completion date goal for our Energy Saving Project is

_____.

<date>

Incentives and Loans for Energy Efficiency Projects

Be sure to consider local, state, and federal incentives.

- If you heat your home with electricity, be sure to ask your auditor about the Potomac Edison's 50% rebate (up to $2,000) for air sealing, duct sealing and insulation, or insulation and window costs. Your auditor will need to fill out part of the application.
- If you need a loan to complete your project, learn about the **Maryland Clean Energy Loan Program** at: *www.mcecloans.com/*. Unsecured loans (no collateral required) of up to $20,000 are available for 10 year terms.
- For the latest on Maryland incentives, visit *www.tinyurl.com/29axb4j*.
- For the latest on federal incentives, visit *www.energytaxincentives.org/*.

Complete Your Energy Saving Home Improvement Project

If you're not implementing your project yourself, you may need assistance finding a certified contractor. Some home energy auditing companies also provide retrofit or general contracting services. Alternatively, you can look for certified contractors by using the listing at Maryland Home Performance with ENERGY STAR® at *www.mdhomeperformance.org* or searching *www.Leafkey.com*. A list of approved contractors for the Potomac Edison Home Performance with ENERGY STAR® program can be found at *www.energysavemd-home.com/home-performance/home-energy-expert*

GREEN POINTS 3

My/our Energy Saving Project was completed on

_____.

<date>

Step 5:

Track Your Energy Use

When you track your energy use and compare it to previous months, you become more power-aware and conscious of how you use energy!

Total points available: 5

Keep track of your household's electricity usage

GREEN POINTS 2

I /we completed this step on _____. <date>

Tracking your monthly energy consumption of kWh used and the dollar amount spent can help you have a better understanding of how you use energy and show your savings, as you work to make your home more energy efficient. A simple spreadsheet may be all you need to track your electricity usage patterns and costs.

Better yet, use the online tool, WattzOn, to enter or retrieve your utility data, plot usage, and calculate savings from one year to the next. The Green Homes Challenge has its own WattzOn Group: *www.wattzon.com/group/GHC.*

Here are a few things you may want to have handy when you register: approximate square footage of your home, utility bill statements or data, and your User ID and Password for your utility accounts if you want WattzOn to retrieve your monthly usage (it cannot access any personal payment data). On April 1, 2012, Potomac Edison switched to the First Energy billing system. To create an online account with this new system, visit *www.firstenergycorp.com/register_for_onlineaccount.html*

The WattzOn tool aggregates savings for the Green Homes Challenge group members; this helps us evaluate the effectiveness of the Power Saver Challenge. We encourage you to try it!

If you have questions about ways to track your electricity usage, or find a great tracking tool you'd like to share, please contact the Green Homes Challenge Coordinator at 301.600.7414 or GreenHomes@FrederickCountyMD.gov

Read your power meter monthly and submit kWh usage to Potomac Edison

GREEN POINTS 1

I/we completed this step on _____. <date>

You've probably noticed that Potomac Edison does not read your meter every month; for those months between meter readings, an estimate is calculated. Not having actual monthly readings will make it hard to determine whether or not you are saving energy compared to the previous year. You will have a more accurate picture for tracking your energy usage and savings when you have actual, not estimated, data.

You can read your own meter each month and use the phone (call 1-800-255-3443 and say "meter reading") or internet to submit it to Potomac Edison (*www.firstenergycorp.com/content/customer/potomac_edison.html* or *www.tinyurl.com/d4fbn8x*).

Instructions are on the back of your electric bill. The window of time during which you should submit your reading is printed below the usage graph on your bill. Try to read your meter on roughly the same date each month and put a reminder on your calendar. If your meter has dials, remember to always report the lower number if the hand falls between two numbers.

Use a home energy monitoring device

Watching how much energy is being used in your home in real-time can really promote energy savings! Several new products on the market include wireless devices that monitor energy data from your electricity meter; some provide dashboards that you can monitor on your computer. For a live demonstration, visit *www.demo.theenergydetective.com/Footprints.html.*

GREEN POINTS 2

I /we completed this step on

_____.
<date>

Step 6:

Implement Additional Energy Saving Actions

Now it's time to implement other energy saving actions that together can save you bundles of energy and lower your utility bills.

You determine the number of points earned!

Total Points Available: 82

You have a lot of options for earning Green Points

Use the Catalog of Energy Saving Actions found in the following section. Total the Green Points you earn along the way and enter them in the column to the right. If you are working towards Power Saver Certification, don't forget to include your total on the Certification Form.

GREEN POINTS ?

I /we completed this step on

_____.
<date>

Step 7:

Volunteer & Leadership Options and Bonuses (Optional)

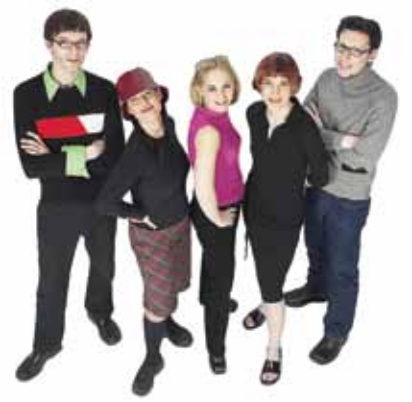
Help spread the word and inspire others! You can help others reap the benefits of saving energy through the Green Homes Challenge in two ways – and you'll earn extra Green Points for doing so!

Total points available: 6

Host a Powerware Party

GREEN POINTS 2

Host a Powerware Party in your workplace, neighborhood, place of worship, or community organization. All that is involved is inviting 10 - 15 people to attend, providing refreshments, and doing a little follow-up with your guests. Green Homes Challenge staff or volunteers will lead the activities and share resources.



Take a look at the Powerware Party Host Packet in Appendix A to get a sense of what is involved.

I/we completed this step on _____.
<date>

Become a Green Ambassador

GREEN POINTS 4

If you like the idea of inspiring or motivating others to go green, consider becoming a Green Ambassador for your workplace, faith community, or neighborhood organization! Green Ambassadors empower and support others in their quest to save energy, adopt green lifestyle practices, and use renewable energy. It is a flexible role with no set time commitment; use the Green Homes Challenge Resources and implement your own creative ideas as well. You may serve individually or pair up with another Green Ambassador in your designated network or community. Be creative and have fun!

Green Ambassadors may promote the Green Homes Challenge, distribute resources, coordinate activities or demonstration workshops, or coach people to achieve Power Saver Certification. Green Ambassadors receive training, support materials, and resources. A limited number of Green Ambassador Mini-grants of up to $500 are available to support their planned activities.

Take a look at the Green Ambassador Packet in Appendix A to learn more about the role and responsibilities of Green Ambassadors.

I/we completed this step on _____.
<date>

Step 8:

Submit Your Power Saver Certification Form

You met the Challenge! Congratulations! You deserve to be recognized and rewarded.

Total Points Available: 1

GREEN POINTS 1

Fill out and submit the Power Saver Certification Form

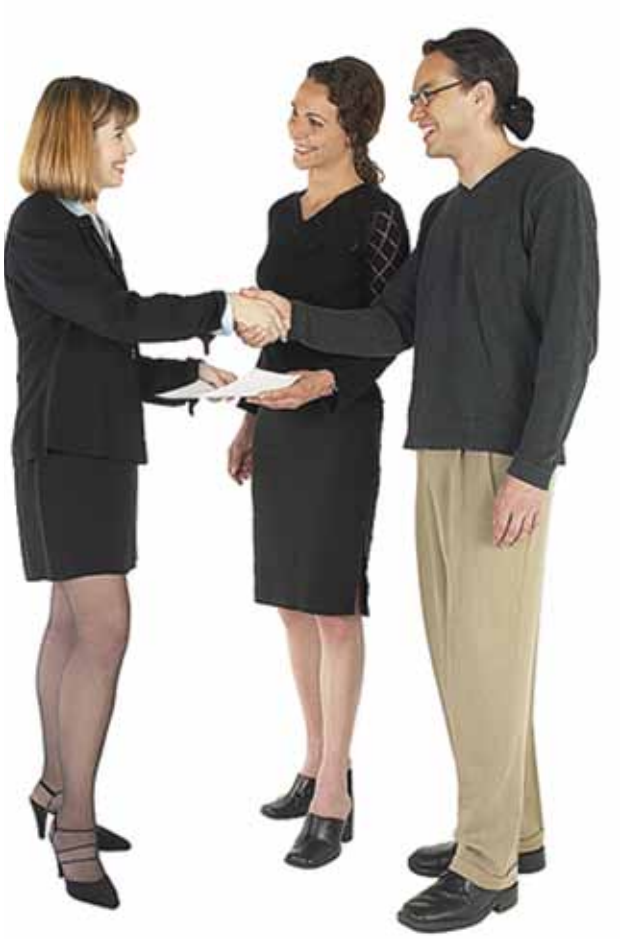
Find the form in Appendix B or download it at: *www.FrederickCountyMD.gov/GreenHomes*.
Submit the form and related documentation by email, mail, or fax to:

Green Homes Challenge Coordinator
Office of Sustainability and Environmental Resources
30 North Market Street Frederick, MD 21701
Fax: 301.600.2054
Email: *GreenHomes@FrederickCountyMD.gov*

Questions? Contact the Green Homes Challenge Coordinator at 301.600.7414 or GreenHomes@FrederickCountyMD.gov

I/we completed this step on

_____.
<date>



Energy Actions Catalog

Catalog of Energy Saving Actions

Not all energy saving actions are equal![1] An action we may think is very effective, such as turning off lights, may have much less impact compared to another action, such as regulating our thermostats. To make taking action easier for you, we have selected 5 actions, our Top 5 Picks, that will result in energy savings and lower utility bills. In addition, the environmental and/or energy saving benefit of each action in this catalog is ranked by the number of Green Points associated with completion of the action. The number of hammers is an indication of how much effort is involved, while the number of dollar signs indicates relative cost. Refer to the symbols legend on page 12.

Top 5 Picks

Here are 5 actions that will result in significant energy savings and lower utility bills. They range from free, low-effort actions to insulation projects requiring a financial investment. ***If you don't do anything else, do these!***

(1) We upgraded our attic insulation (preferably at the R-value recommended by a professional home energy auditor or contractor.)

GREEN POINTS 4

If your home was built before 1991, your attic needs an insulation upgrade. Improving attic insulation can save up to 7% of U.S. households' energy consumption (5% on heating and 2% on cooling). In some cases it can cut heating and cooling costs in half! Depending on the R-value desired, square footage, and type of insulation, upgrades may range in cost from $700 to $1,400. But energy savings with proper insulation may range from $320 to $440 so the payback is only 2-3 years! It is a good idea to involve a professional for advice or installation. Properly sealing air leaks is an important component of a good insulation job and improperly installed batts can sometimes do more harm than good! Read this Attic Insulation Upgrade flier for more information:
www.jea.com/about/pub/downloads/AtticInsulationUpgrade.pdf

For details on all the elements of a proper insulation job, check-out EPA's **Do It Yourself Guide to Sealing and Insulating with ENERGY STAR®**:
www.energystar.gov/index.cfm?c=diy.diy_index

Remember, insulation supplies qualify for a federal tax credit:
www.energystar.gov/index.cfm?c=tax_credits.tx_index

To make your insulation project even greener, consider batt insulation made of 90% recycled cotton. This natural insulation meets the highest testing standards for fire and smoke ratings, fungi resistance and corrosiveness, but is more expensive than fiberglass.

[1] For more information about the most effective energy saving actions U.S. households can take, read The Short List at: *www.environmentmagazine.org/Archives/Back%20Issues/September-October%202008/gardner-stern-full.html* and Unplug for Savings at *www.ecw.org/ecwresults/homeenergy-sepoct2010.pdf*

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GREEN POINTS 3

(2) We use energy-efficient lighting in at least 85% of our lighting fixtures. (Compact Fluorescent Bulbs (CFLs), T-8 or T-5 fluorescent, and/or LED)

Fluorescent lights use up to 75% less energy than incandescent light bulbs and can last up to 10 times as long. Using CFLs throughout your home may result in energy savings of up to 4%. If you replace 20 bulbs with more energy-efficient lights, you can save up to $600 over the lifetime of the bulbs. CFLs now come in all shapes and sizes. There are dimmable models, models for recessed lighting and outdoor fixtures.

If you tried a CFL and didn't like it, it may be because you didn't select the right wattage, color, brightness or size. When purchasing CFLs, use these equivalencies to get the brightness you are looking for (or roughly divide by 4):

Incandescent	CFL
60 Watt	13 Watt
75 Watt	18 Watt
100 Watt	23 Watt

For current lighting rebates available from Potomac Edison, visit:
www.energysavemd-home.com/cfl.
www.alleghenypower.com/EngConserv/MD/WattWatchers

For more ENERGY STAR® information on choosing the right bulb, visit:
www.tinyurl.com/ygxzvzp
For information on LED lighting, visit: *www.eartheasy.com/live_energyeff_lighting.htm*

FREE or $

GREEN POINTS 3

(3) We manually regulate our thermostat or use an ENERGY STAR® programmable thermostat.

The EPA recommends that you set the thermostat to 68°F in winter when you're at home and down to 65°F when you go to bed or when you're away. For every degree you lower your heat in the 60-degree to 70-degree range, you'll save up to 5% on heating costs. In the summer, set the thermostat to 77°F or 78°F. For every degree you raise your thermostat setting above 72 degrees, you will save about 7% on cooling costs.
(Source: *www.santaclara.ca.gov*)

When programmable thermostats are installed and used with the four pre-programmed temperature settings for weekend and weekdays, you can save about 16% each year on heating and cooling costs while staying comfortable. Programmable thermostats automatically adjust the temperature when you're sleeping or when you're away.
(Source: *www.energysavers.gov*)

For more information visit: *www.tinyurl.com/y99npnn*

Watch this video about how to purchase and install a programmable thermostat:
www.energystar.gov/index.cfm?c=thermostats.PT_Podcast

(4) We sealed our doors, windows, and attic stairs.

GREEN POINTS 2

Unplanned air leakage through leaky doors and window joints, cracks, frames, and sashes can account for 15-40% of a home's heating and cooling losses. If you close a piece of paper in a door and can pull it out easily, it needs weatherstripping. Stop air leaks around windows and doors with caulk, weatherstripping, plastic film, or storm windows.
(Source: *www.consumerenergycenter.org/home/windows/todays_windows.html*)

From draft guards to foam weatherstripping, there's a wide variety of products and strategies. It's a good idea to learn what works best for your particular situation and the location and type of your doors and windows. Strategies and materials are described on these web sites:

www.tinyurl.com/ykktoow

www.savehouseholdenergy.com/homeinsulation-tips.html

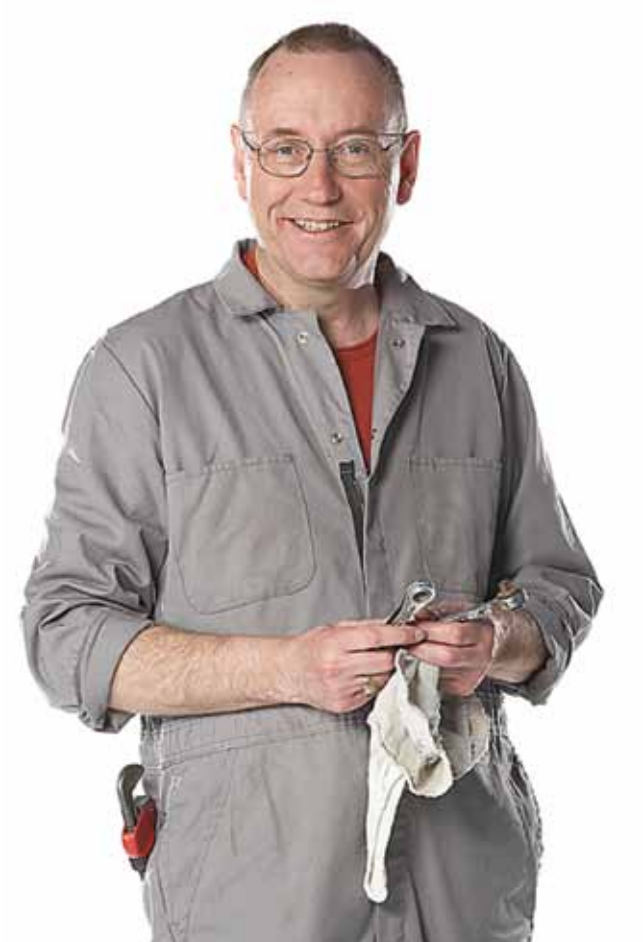
If you have a door to your attic or a pull-down stairway, insulating it can be a big energy saver! You can purchase insulated stairway covers at Amazon.com or learn how to do it yourself though dannylipford.com: *www.tinyurl.com/2eeagzd*

Take a look at these videos to learn how to install weatherstripping:

Entry Doors: *www.youtube.com/watch?v=swDkiffcV-I*

Attic Doors: *www.youtube.com/watch?v=2y7aPy_pVz4&feature=related*

Doors and windows: *www.youtube.com/watch?v=rz4Po2VziUY*



(5) We set up Power Management on our desktop computers and laptops.

GREEN POINTS 2

The average desktop PC wastes half of the energy it consumes, and 75% of energy consumption occurs when no one is in front of the computer! Did you know that a desktop computer left on 24/7 without power management can use up 600 kWh per year? That same computer will use only 200 kWh per year if power management is enabled. Of all the energy savings possible from household plug-in electronics, power management accounts for as much as 40%! By turning on your computer's energy saving features, you can save over $60 a year in energy costs and reduce your CO_2 emissions by nearly half a ton.

(Sources: Energy Center of Wisconsin: *www.ecw.org/ecwresults/homeenergy-sepoct2010.pdf*, *ClimateSaversComputing.org*)

You can run a wizard to set up power management for your monitors and CPUs running Windows 2000 or Windows XP operating systems at: *www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_ez_wiz*

For power management instructions for a variety of operating systems, plus additional power management information and resources, visit: *www.climatesaverscomputing.org/learn/saving-energy-at-home/*

For a free energy monitoring application, visit: *www.verdiem.com/edison.aspx*

For more information about energy use and home computing, visit: *www.energysavers.gov/your_home/appliances/index.cfm/mytopic=10070*

Total "Top 5 Energy Action" Green Points

Lighting

We installed solar light tubes.

GREEN POINTS 3

You can bring diffused natural daylight into dark spaces using solar light tubes. Solar light tubes generally have an infrared barrier which allows visible-spectrum light into your home, but not solar heat (infrared radiation). This prevents the solar tube from heating your rooms in hot summer weather. Some light tubes also come with lighting fixtures built in for evening use. (Source: *www.green-energy-efficient-homes.com/solar-light-tube.html*)

Solar light tubes are relatively easy to install; it takes 2 – 3 hours. To learn how to install a solar light tube, watch this video: *www.youtube.com/watch?v=wCbjoKF6Itw*

We turn off lights in areas that are not being used.

This is the simplest behavioral change that you and your family can make to your daily energy-saving regimen! Making a difference starts with small changes. You can also install motion sensors in rooms that are not often used or walked through.

For more information, visit: *www.tinyurl.com/ylompmf*

GREEN POINTS 1

We substitute natural light for electrical light.

Using light that is already available during daytime hours reduces energy output from light bulbs, saving you money. For example, if a 100 watt light bulb is not being used during a daytime period from 7am to 7pm (12 hours), you can save up to 45 kilowatt hours (kWh) over a year. If you have 20 light bulbs in your home, you can save about $100 each year with the average energy cost in Maryland being 13¢ per kWh. Open your curtains to allow natural lighting in and close them when it gets too hot. (Source: *www.eia.doe.gov*)

For more information, visit: *www.tinyurl.com/236pq8h*

GREEN POINTS 1

We use solar walkway lights.

Using solar walkway lights instead of a porch light or electric walkway lights will cut energy and/or battery costs because they use the sun to generate light energy and they only turn on at night using a light sensor. Little maintenance is needed other than keeping the solar cells clean from pollen, dust, and dirt.

For energy-efficient product performance levels recommended by the U.S. Department of Energy, visit: *www.tinyurl.com/28t8fru*

GREEN POINTS 1

We use motion sensors for interior and exterior lighting in low use areas (e.g. outdoor floodlights, porch lights, sheds, closets, attics, basements).

Motion sensors save energy by only turning on the lights when set or necessary. There are a variety of options for different uses from nightlights to porch lights.

GREEN POINTS 1

Total "Lighting Actions" Green Points

Heating & Cooling

GREEN POINTS 3

We had our HVAC systems and ductwork professionally evaluated within the past 10 years. We sealed leaking ducts.

It is important to have your heating, ventilating, and air conditioning (HVAC) systems, and just as important, your ductwork evaluated especially if you are living in a home with a pre-existing system. A lot of significant problems can arise over time due to improperly sized HVAC systems and ducts as well as leaking ducts. In typical houses, about 20% of the air that moves through the duct system is lost due to leaks, holes, and poorly connected ducts. If you have return duct leaks, you could be pumping "bad air" directly into your living space. Leaking ducts also cause indoor air quality problems because of "pressure imbalances." This can cause unhealthy air, laden with dirt, dust, pollen, allergens, and other contaminants, to be sucked into your home. Pressure imbalances can also cause backdrafting in combustion appliances such as furnaces, wood stoves, and gas ranges. When this happens, you risk exposure to carbon monoxide, a deadly gas. To learn more about the importance of duct sealing, visit: *www.tinyurl.com/2o23kh* or read this EPA Duct Sealing brochure: *www.tinyurl.com/ykftmef*.

Aeroseal is one company that runs diagnostic tests and can seal ducts from the inside. (Sources: *www.drenergysaver.com/ductwork.html* and *www.aeroseal.com*)
You can also seal your ducts and filter rack yourself from the outside. Watch this video to see how: *www.youtube.com/watch?v=iXDd4uJUn30*

Read this **ENERGY STAR® Guide to Energy-Efficient Heating and Cooling.** It includes tips for selecting and working with a contractor: *www.tinyurl.com/yc39snm*

Also, **DOE's Space Heating and Cooling web pages** includes tips on selecting and replacing systems as well as information about a wide variety of systems. Visit: *www.tinyurl.com/27y28zh*

GREEN POINTS 3

Based on the results of a professional evaluation, we have replaced our HVAC system with an efficient/ENERGY STAR® certified alternative (or plan to do so within the next 6 months).

It is worth researching the many diverse heating and cooling system options available today —air, water, and geothermal heat pumps; wood, pellet, and corn stoves; traditional furnaces and boilers; radiant floor and panel heating; air and liquid active solar heating; central or ductless mini-split air conditioners to name a few. Visit this Energy Savers web site for information about heating and cooling system options and guidance on selecting and replacing systems: *www.tinyurl.com/27y28zh*

For corn or other biomass stove information, visit:
www.wiseheat.com or
www.ehow.com/how_2070503_choose-biomass-stove-heating.html

We change our HVAC filters every 3 months.

GREEN POINTS 2

To keep your system running at optimum power, change your HVAC filter a minimum of every three months. Air conditioning and heating account for half of the household energy consumption. Changing the HVAC filters regularly will allow the system to operate efficiently and it will keep the indoor air clean. Use HEPA (High Efficiency Particulate Air) filters on your HVAC system so that you have maximum filtration in your home. For more information on HEPA filters, visit:
www.airfiltersandpurifiers.com/HEPA-filters

For more information, visit:
www.energystar.gov/index.cfm?c=heat_cool.pr_hvac

We purchased an ENERGY STAR® certified air conditioner within the past year.

GREEN POINTS 2

By installing an ENERGY STAR® air conditioner, you can achieve up to 27% energy savings per year and up to $1,000 in lifetime energy savings.

Visit Potomac Edison online for current air conditioner rebate information:
www.energysavemd-home.com/hvac/

We converted our fireplace or pre-1990 wood stove to a more efficient wood-burning or natural gas stove/fireplace.

GREEN POINTS 2

Natural gas fireplaces and stoves are more efficient, safer to use, easier to start up, and don't require the use of logs compared to conventional wood-burning fireplaces. PM10s (particulate matter less than ten microns) are produced by burning wood and can cause lung damage, trigger asthma, or even lead to lung cancer after long periods of exposure.
(Source: *www.epa.gov/burnwise*)

Wood stoves made after 1990 are EPA-certified, produce very little smoke (2-5 grams per hour), virtually no ash, 90 percent less emissions, and 33 percent more fuel efficiency than the old pot belly stoves.
(Source: *www.woodstoves.arieljvan.com/wood-stoves-the-environment*)

If you use a wood burning stove or furnace, learn about best practices at:
www.epa.gov/burnwise/bestburn.html

We keep unoccupied rooms closed.

GREEN POINTS 1

When a room is not in use, make sure to close the door and the vents so that energy is not wasted to cool or heat the room. This is a simple behavioral change that can save you money.

We use bioheat (5% biodiesel fuel) in our oil burning furnace.

Bioheat is a domestically produced, renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Bioheat is safe and biodegradable, and its use significantly reduces greenhouse gas emissions and serious toxic air pollutants. In 2007 Maryland passed a Bio-Heating Oil Tax Credit. The statute provides for a $0.03/gallon tax credit up to $500 for individuals and corporations that purchase Bio-Heating Oil for the purpose of space and water heating. The statute defines Bio-Heating oil as at least 5% biodiesel. Tax credits may be taken in 2010, 2011, and 2012.
(Source: *www.green.maryland.gov/mea.html*)

GREEN POINTS 2

We keep radiators and vents clear.

Furniture that is placed within 2 to 3 feet of the radiator will absorb the heat that would otherwise rise to circulate and heat the room. Don't place anything on top of the radiator or position furniture or rugs directly on top of floor vents as it prevents air circulation.
(Source: *www.energystar.gov*)

GREEN POINTS 1

We maintain our air conditioner and heat pump.

An air conditioner's filters, coils, fins, and refrigerant charge require regular, professional maintenance for the unit to function effectively and efficiently throughout its years of service. Neglecting necessary maintenance ensures a steady decline in air conditioning performance while energy use steadily increases. For more Energy Savers information, visit:
www.tinyurl.com/273hos6 (DOE) or *www.tinyurl.com/29zo69 (EPA).*

GREEN POINTS 1

We installed ceiling fans.

Ceiling fans efficiently circulate air throughout a home during winter and summer. They can increase the cooling effects of air conditioning so you can set your thermostat higher or not use A/C at all on mild days.
In summer, run your fan counter-clockwise; in winter, run it clockwise so it pushes warm air up against the ceiling and down along the walls. For maximum energy saving benefits, purchase an ENERGY STAR® ceiling fan. These fans circulate an average of 15% more air than other ceiling fans.

GREEN POINTS 1

Total "Heating & Cooling" Green Points

Building Envelope, Insulation & Weatherstripping

$ $ $ $

GREEN POINTS 3

We installed energy efficient windows in the last 5 years or plan to do so in the next year.

Before making a large financial investment in new windows, explore all options for increasing the energy efficiency of your windows and overall home with your home performance auditor or contractor. You may be able to achieve comparable or even greater energy savings for far less cost.

If you do determine you need to replace your windows, consider all aspects of a window: the frame, glass or glazing, and operation. There are many energy efficient options and performance measures to take into account: insulated double/triple glazing, Low-E (emissivity) coatings, air leakage rate, and more. Windows are rated using a variety of energy performance characteristics: U-factors, Solar Heat Gain Coefficient (SHGC), sunlight transmittance, and more. Learn all about selecting energy efficient windows at: Learn all about selecting energy efficient windows through energysavers.gov at: *www.tinyurl.com/2bmk3tx*

For tips on window-related energy savings, visit: *www.energysavers.gov/tips/windows.cfm*

Watch these videos to better understand the benefits of Low-E window coatings: *www.youtube.com/watch?v=QQ_nI-2C96Q*

www.youtube.com/watch?v=RP9B1EyfrzY&feature=related

HISTORIC CONSIDERATIONS: If you live in the City of Frederick's Historic District, all window repairs and replacements must be approved by the Historic Preservation Commission. If your home has early or original windows, the Commission is likely to recommend repair or storm windows over replacement. This City of Frederick document contains guidelines for maintaining, repairing and replacing windows, as well as a list of manufacturers of replacement windows considered consistent with the *Frederick Town Historic District Guidelines*: *www.cityoffrederick.com/cms/files/Historic%20District/window-repair.pdf*

If your property is on the National Register of Historic Places, read this Preservation Brief on the Repair of Historic Wooden Windows: *www.nps.gov/history/hps/tps/briefs/brief09.htm*

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GREEN POINTS 2

We installed an inflatable draft-stopper in our fireplace.

If you have a fireplace in a well-insulated home, but leave the damper open, you could be increasing your energy use and costs by 30%. Winter air leakage through fireplaces can increase winter energy bills by $500 or more! Chimneys draw rising warm air out of your home which is replaced by cold air. You can install a low-cost inflatable pillow in your chimney to avoid this. It can be removed before fireplace use, and reinstalled after. For more information, visit: *www.batticdoor.com/lowerheatingcosts.html*

Watch this installation video: *www.youtube.com/watch?v=OWNIwfO4bS0*

We installed a dryer vent seal.

Is your laundry room the coldest room in your home? An often overlooked source of heat loss is the dryer vent. While a typical dryer vent flap may keep rodents out of your home, it makes a great pathway for heat to leave your home. Learn more about this at: *www.doityourself.com/stry/dryer-vent-an-overlooked-source-of-heat-loss*

Dryer vent seals, which can also work on bathroom and kitchen vents, remain closed unless the dryer is in use. When the dryer is in use, a floating shuttle rises to allow warm air, lint, and moisture to escape. When the dryer stops, the shuttle drops back down, keeping cold air, birds, bugs and rodents outside.

GREEN POINTS 1

We installed foam gasket insulators behind electrical outlets and light switch plates.

Have you ever noticed a cold draft when you remove an outlet cover? Electrical boxes behind wall sockets penetrate into the wall cavity and its insulation making them potential sources of air leakage especially along outside walls. Polyethelyne foam gaskets installed behind electric outlet plate covers reduce drafts. For double or triple outlet or light switch boxes, multiple gaskets can be overlapped and trimmed to fit. Foam gaskets are simple to install and are available at local hardware stores or on-line vendors.

To see how to install gaskets, watch: *www.youtube.com/watch?v=i1A0lM3L73U*

GREEN POINTS 1

We open and close drapes to help heat and cool our home.

In the summer, close drapes and blinds during the hottest parts of the day (usually between 11am-3pm) to keep the sun from heating your rooms. Standard window blinds can be quite effective at keeping your house cool in summer, reducing heat gain by up to 45%.

In the winter, open drapes and blinds during the day to allow the sun to warm your home and close drapes and blinds during the evening to keep the heat inside your home. Conventional drapes or curtains reduce heat loss from a room by only 10%. Convection carries hot air between the curtain and the window, where the air loses heat, falls below the bottom of the curtain and out the sides and draws in more hot air above. Drapes or blinds that are close to the window and snug on all sides can reduce heat loss by as much as 25%. For more information, visit:
www.green-energy-efficient-homes.com/energy-saving-window-coverings.html

GREEN POINTS 1

We use insulated shades or window quilts.

A lot of heat is lost during the night through window glazing. You can retain heat in your rooms by using insulated window shades or window quilts. Insulated shades can also keep heat from entering your rooms in the summer. Learn more about how window shades save energy at: *www.green-energy-efficient-homes.com/energy-saving-window-coverings.html*

There are many products to chose from; try searching Amazon.com or Google.com. Or if you are frugally-minded, learn how to make your own window quilts at: *www.bellaonline.com/articles/art34745.asp* , or insulated Roman shades at: *www.doityourself.com/stry/how-to-make-your-own-insulated-roman-shades*

GREEN POINTS 1

We made solar heat catchers for our windows in the winter.

You can use the power of the sun to warm your south and east facing rooms in the winter by making simple passive solar heat catchers. While they may not help you win any home decorating awards, they can save you a substantial amount on heating costs; the inventor claims he has cut his winter electric heating bills in half! Basically, it amounts to hanging black painted foil in your windows. Learn how to make this simple heating device: *www.bellaonline.com/articles/art36322.asp*

GREEN POINTS 1

Total "Building Envelope, Insulation & Weatherstripping" Green Points

Appliances & Electronics

We eliminated vampire power/phantom loads by unplugging power adaptors and plugging electronics and appliances into power strips and turning them off when not in use.

Standby power, vampire power and phantom loads refer to the electric power consumed by electronic appliances, such as VCRs, televisions, stereos, computers, and kitchen appliances, while they are switched off or in standby mode. A very common "electricity vampire" is a power adapter which has no power-off switch. ***Make sure to unplug your cell phone and reusable battery chargers from the outlet when not in use***. These use energy even when not recharging! Studies at Lawrence Berkeley National Laboratory have estimated that standby power may account for 5% to as much as 10% of total residential household power consumption in the U.S. That adds up to $3-6 billion in energy costs.
(Source: *www.en.wikipedia.org/wiki/Standby_power*; *www.energy.gov*)

Read this short Home Energy magazine article, *Unplug for Savings*, about saving energy with home electronics and plug-in devices:
www.ecw.org/ecwresults/homeenergy-sepoct2010.pdf

GREEN POINTS 2

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GREEN POINTS 2

We use a "smart" power strip to manage vampire power.

When it comes to your family entertainment system, there may be some devices, such as a DVR or TiVo, you do not want to ever shut off. You can use a "smart" power strip that has a master outlet and "constant-on" outlets to manage this situation. If you plug your TV into the master outlet, then other devices will only come on when the TV does, while devices plugged into the "constant-on" outlet remain on all the time. Using a "smart" power strip can cut the cost of vampire power in a home entertainment system in half. The Smart Strip brand is available at local hardware stores or online through Amazon.com. The Wattstopper brand is available at: *www.wattstopper.com*.

To see how to benefit from using a "smart" power strip, watch this video: *http://www.youtube.com/watch?v=FeUVSat1VFo*

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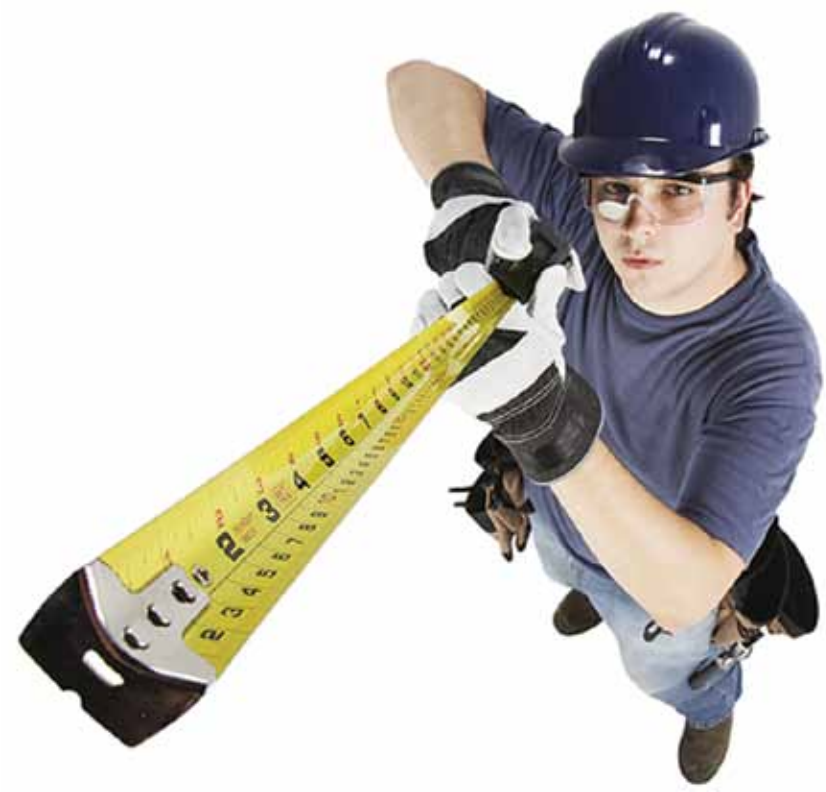
GREEN POINTS 2

We purchased a high-efficiency ENERGY STAR® appliance in the last year and will choose ENERGY STAR® appliances when the time comes to replace other appliances in the future.

ENERGY STAR® appliances offer more energy and money savings over their lifetimes. The Potomac Edison Home Performance program offers rebates for ENERGY STAR® appliances. (*www.firstenergycorp.com/save_energy/save_energy_maryland.html*)

For more information, visit: *www.energystar.gov/index.cfm?c=products.pr_find_es_products*



GREEN POINTS 2

We use clothes lines and racks (indoors and/or outdoors) to dry at least half our laundry.

Clothes dryers use 5-10% of a household's daily energy use and are one of the most expensive home appliances to operate ($100-$200/year). They are also one of the most dangerous, causing more than 15,000 home fires annually. (Sources: Underwriters Laboratories; Saturn Resource Management, Laundry List Project).

If you think you are forbidden from using a clothesline by your homeowner's association or condominium, here's some good news! Maryland's "Right-to-Dry" legislation (SB 224) went into effect on October 1, 2010 and requires condominium associations, homeowner associations, and cooperatives to allow homeowners to install clotheslines on their property.

From saving money to the natural disinfecting power of sunlight, there are many benefits to air-drying clothes. Read the top 10 at: *www.laundrylist.org/en/line-drying*

If you would like to know how much energy and money it takes to launder your household's clothes, try out this calculator: *www.laundrylist.org/en/line-drying/calculator*

There are lots of clothesline and drying rack options. To explore models that may work for your household, visit: *www.urbanclotheslines.com/*

TIP: Using hangers can really reduce the length of clothes line you need. (You'll need a rod or taught wire for this approach.) Use each hanger as a mini-clothes line for socks, dishtowels, and the like. Install a rod over your washer dryer or use your shower rod for hangers during rainy or winter weather.

If you have severe allergies to pollen, check the weather and the Air Quality Index before you hang your clothes outside. For more information on pollen, visit: *www.niehs.nih.gov/health/topics/conditions/asthma/pollen.cfm*

GREEN POINTS 2

We use a microwave, outdoor grill or solar cooker in the summertime and choose small appliances year round.

Cooking on a stove or using your kitchen oven, even for about an hour a day, uses a lot of energy and can raise the overall temperature in your home by as much as four degrees. Heating caused by using your oven or stove makes it more difficult for your air conditioning thermostat to maintain proper room temperature. Using a microwave (which uses 66% less energy) or grilling outside can ease some of the burden on your air conditioning system, lowering your summer energy bills. Using small appliances, such as toaster ovens or electric frying pans, can save a lot of energy any time of year! (Source: Idaho Power Energy Efficiency Guide 2010)

Go even greener by trying solar cooking! (*www.applied-solar.info/solar-cooking/benefits-of-solar-oven-cooking/*)

You can make your own solar cooker very inexpensively; here are some innovative plans: *www.solarcooking.org/plans/*

GREEN POINTS 2

We keep our refrigerator's thermostat between 38 and 42° F and clean our refrigerator coils at least twice a year.

Keeping refrigerator coils clean can help you save money and avoid service calls. To clean the coils on your fridge, first move it away from the wall carefully and unplug it. Locate the coils -- either on the back or at the front bottom of the fridge. If they're at the bottom, snap off the grill in the front covering them and use a coil cleaning brush (available at hardware and appliance-parts stores) to loosen the dirt; then remove it by vacuuming. You may need to also remove the back panel and clean it from the back. If the coils are on the back, clean them the same way. Do this at least twice a year (more often if you have pets) to help keep your refrigerator operating efficiently.

To learn how to clean your refrigerator coils from the back and front, watch: *www.youtube.com/watch?v=2Z3zpe8ORig&feature=related*

GREEN POINTS 2

We test the seals on our fridge and freezer and replace them when needed.

Warped or damaged gaskets on your refrigerator or freezer not only waste energy, but can also lead to drips and mold. To test their effectiveness, place a dollar bill in the door and close. Gently tug it. If the dollar comes out easily, the gasket is not working properly, and you are losing energy and money. (Source: *www.org.elon.edu*; *www.1800anytyme.com/blog/blow-off-your-old-refrigerator-gasket/99/*)

To see how to replace the gaskets, watch: *www.youtube.com/watch?v=Xd21H3cjraI&feature=related* or *www.youtube.com/watch?v=1Idn2Ur2ug0*

The links above show the differences between replacing removable and attached seals.

GREEN POINTS 1

We turn on computer peripherals only when we need them.

Most likely, when you turn on your computer, your printer, scanner, and other peripherals come on too, even though you may only use these devices once or twice per week. Keep them turned off and turn them on only when you need them!

GREEN POINTS 1

We use programmable timers for power tool charging.

People sometimes use timers to turn on and off lights while away from home or to start and stop the coffee pot. Another good use of timers is power tool charging. You may only use a power tool a few times a month, but it may be sitting in a charger 24/7! You can use a timer to charge your tools intermittently; they'll be ready when you need them without wasting energy unnecessarily.

We **keep our freezer defrosted and raised the thermostat from -5 to between 0 and +5° F.**

GREEN POINTS 1

Keeping your freezer defrosted not only saves wasted energy from over-cooling the freezer, but it also saves your food as the frozen water in the food will not crystallize and cause freezer burn. Try not to open and close your freezer door frequently, as the fluctuation in temperatures above and below the freezing point also contributes to freezer burn.

Food retains cold better than air so keep the freezer at least half filled with food. The old standby of putting water filled milk jugs is still a good energy saving tip. (Source: Farmington, NM Electric Utility)

Total "Appliances & Electronics" Green Points

Water Conservation & Heating

Note: For actions and information related solar thermal systems, refer to the Green Homes Challenge Renewable Star Handbook.

We **installed low-flow showerheads.**

GREEN POINTS 3

Energy and water efficient showerheads use roughly three or more gallons per minute (gpm) less than older pre-1992 models. That saves water and energy because your water pump isn't pumping as much water. Showerheads are inexpensive and there are many models to choose from. Select a showerhead with less than 2.5 gpm. For more information, visit: *www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=13050*

To learn how to replace your showerhead, watch this video: *www.youtube.com/watch?v=gQy2D8ZzeDo*

We **installed a high-efficiency/dual flush toilet or conversion kit.**

GREEN POINTS 3

Toilets use more water than any other device in your home--about 30 percent of all your indoor water consumption. New toilets use 1.6 gallons per flush (gpf) and high-efficiency toilets (HETs) go beyond the standard and use 1.28 gpf (a 20% savings) or less. Dual Flush Toilets use less water for liquid waste than solid waste. If you are purchasing a new toilet, look for the WaterSense label. For more information, visit: *www.highefficiencytoilets.org/ or*

www.home.howstuffworks.com/dual-flush-toilet.htm

For a lower cost option, you might want to consider a dual flush conversion kit. They are available at stores like Home Depot and Bed Bath & Beyond, or search for "dual flush" with your web browser for more options.

We installed a tankless hot water heater.

GREEN POINTS 3

Also known as a “demand” or “instantaneous” water heater, the tankless systems can conserve up to 34% of energy compared to a conventional hot water tank. For comprehensive information about tankless water heaters, visit:
www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=12820

Tankless hot water heaters and installation services are available at stores like Home Depot and Lowes. For do-it-yourself installation, read:
www.knick-knack.com/howto/house/tankless-hot-water-heater.html

We installed an insulating wrap on our hot water heater.

GREEN POINTS 2

You can save 4–9% in water heating costs by wrapping your hot water heater with an inexpensive insulating wrap. Take this step if your hot water heater is old, warm to the touch, or has an R-value on the label less than 24. Note, the installation steps are slightly different for electric or gas water heaters. Learn how to do it at:
www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=13060

Or watch this short video: *www.youtube.com/watch?v=EDzaa-6j7O8&feature=related*

We insulated our hot water pipes.

GREEN POINTS 1

Insulating hot water pipes, especially those in unconditioned spaces such as a basement, reduces heat loss and can raise delivered water temperature by 2–4° F; this allows for a lower water temperature setting. You’ll also conserve water because you won’t have to wait as long for hot water when you turn on a faucet or showerhead. This is an easy do-it-yourself project and the materials you need are available at your local hardware store. For basic information, visit:
www.energysavers.gov/your_home/water_heating/index.cfm/mytopic=13060

For more in-depth how-to instructions, visit:
www.leaningpinesoftware.com/hot_water_pipes.shtml

Or watch this short video to learn how to do it safely and properly:
www.youtube.com/watch?v=FqGrYK_jRkQ

We set our water heater's maximum temperature to 120° F.

GREEN POINTS 2

You can reduce your water heating costs by simply lowering the thermostat setting on your water heater. For each 10 degree reduction in water temperature, you can save between 3–5% in energy costs. The recommended temperature for optimal savings is 120° F. Reducing your water temperature also slows mineral buildup and corrosion in your water heater and pipes; this helps your water heater last longer and operate at maximum efficiency. For more Energy Savers information, visit: *www.tinyurl.com/268sb6q*

Safety Concerns: Water heaters set at 140°F pose risks of scalding and burns especially for children. Lowering the temperature can, however, create more risk for Legionnaires Disease. If this concerns you, read this treehugger.com article: *www.tinyurl.com/avok9k*

We installed a timer on our pre-1998 electric hot water heater.

GREEN POINTS 1

Putting an inexpensive timer on your electric hot water heater causes it to shut down when you are sleep or at work and start up again about an hour before you wake or return. The savings will be more significant if your hot water heater was made before 1998 and you do not want to insulate your heater or hot water pipes.
(Source: *www.michaelbluejay.com/electricity/waterheaters.html*)

For more information, visit: *www.tinyurl.com/2eh7483*

To learn how to install a timer, visit: *www.tinyurl.com/2czv7uj*

We installed low-flow faucet aerators.

GREEN POINTS 1

Newer kitchen faucets usually come with low-flow faucet aerators that restrict flow to 2.2 gpm, but should you need to replace it, or install them on bathroom faucets, be sure to select one with a flow rate of no more than 1.0 gpm. For more Energy Saver information, visit: *www.tinyurl.com/yl5pw2k*

To learn how to replace or install faucet aerators, watch this video: *www.youtube.com/watch?v=xNQ1auGtSyY*

Total "Water Conservation & Heating" Green Points

Total Green Points from Sections in the Energy Actions Catalog
Note here and on your Power Saver Certification Form

Appendices

GREEN HOMES CHALLENGE
FREDERICK COUNTY, MD

Are Your Friends and Colleagues "Power-Aware"?
Are you motivated to spread the word and inspire others?

Host a Powerware Party!

No, we're not asking you to sell cookware, containers, or jewelry! Powerware Parties are fun interactive gatherings that help people become more "power-aware" and take initial energy saving steps. Anyone can host a Powerware Party! Just gather 10-20 friends or colleagues in your community, business, or faith organization, and provide some refreshments. A Green Homes Challenge representative will attend and lead the activities.

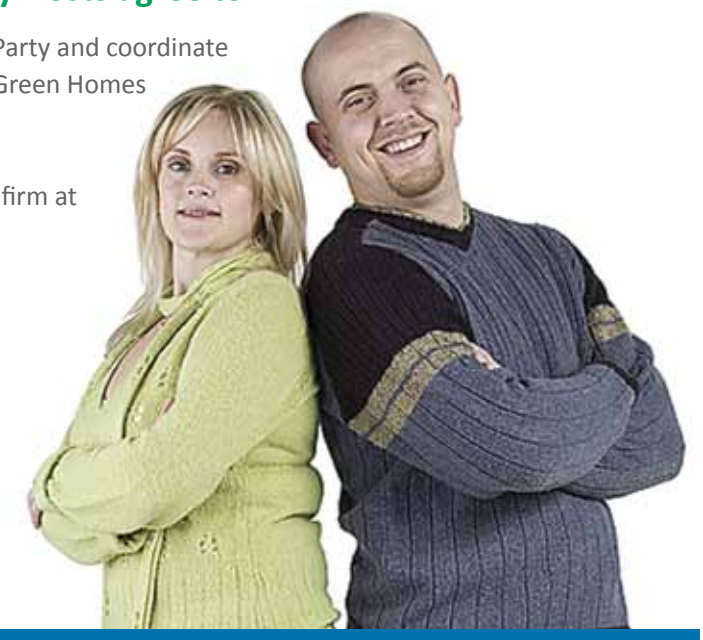
All attendees receive an ENERGY SAVING GIFT!

Powerware Parties run about 90 minutes and may include . . .

- Fun interactive activities about energy,
- Sharing stories, successes, and challenges about saving energy at home,
- Identifying barriers to action and brainstorming solutions,
- Demonstrating energy saving products and strategies,
- Pledging to take at least one energy saving action, and
- Reviewing options for next steps, including taking the Green Homes Challenge.

Powerware Party Hosts agree to . . .

1. Plan your Powerware Party and coordinate arrangements with a Green Homes Challenge presenter,
2. Make a Guest List,
3. Invite guests, track RSVPs, and confirm at least 10 attendees, and
4. Provide refreshments.



Resources:

Use the following planning forms to get started!
Visit www.FrederickCountyMD.gov/GreenHomes for:

- Party planning forms in MS Word and pdf
- Customizable Powerware Party Flier
- Customizable text for email invitations

To schedule a Powerware Party, email GreenHomes@FrederickCountymd.gov or call the Green Homes Challenge Coordinator at 301.600.7414.

Powerware Party Planning Form

Name (Powerware Party Host): _____

Target Community for Powerware Party: (name of business, faith, civic, neighborhood community):

_____

Address of Powerware Party: _____

Room name or number: _____

Special directions or landmarks:_____

_____

Powerware Party Date:_____

Powerware Party Start Time:_____

This Party will run for approximately 90 minutes. If you need your Party to be shorter or longer, please specify your needs here: _____

Number of expected attendees (goal 10-20): _____ (Must confirm at least 10)

What Resources Might be Available?

Does your location/facility have any of the following available for use during the Powerware Party?
(None of these are essential but could be useful if available.)

- ❑ Wireless Internet Access
- ❑ Networked Laptop Computer
- ❑ Networked Desktop Computer
- ❑ Digital Projector
- ❑ Blank wall, large white board, or projector screen

What kind of role would you like to play during the Powerware Party?

(Only the first is required. Check as many or few of the others as you wish.)

- ✓ Greet and check-in participants; serve refreshments (required).
- ❑ Introduce the Green Homes Challenge representative(s).
- ❑ Share a personal story about saving energy at home or share why you decided to host this gathering.
- ❑ Assist presenter with recording comments on flip chart, distributing materials, etc.
- ❑ Ask participants to pledge to take one energy saving action; distribute pledge forms.
- ❑ Help lead discussion on next steps.

Any special requests or concerns? _____

_____

- ❑ Please connect me with an experienced Powerware Party Host so that I may find out what to expect and how best to prepare.

Fillable form also available at *www.FrederickCountyMD.gov/GreenHomes*

MAIL, FAX OR EMAIL TO:

Green Homes Challenge Coordinator, 30 North Market Street Frederick, MD 21701

Fax: 301.600.2054 • Email: GreenHomes@FrederickCountyMD.gov

Sample text for emailed Powerware Party invitations:

Here is some introductory text that you can modify as you see fit for emailed invitations to your Powerware Party.

I'm Hosting a Powerware Party! Please Join me!

No, I'm not selling cookware, containers, or jewelry; I'm participating in Frederick County's Green Homes Challenge! Please join me for food, fun, and informative activities that will help us become more "power-aware," save energy, and lower our utility bills. Plus, everyone will receive a **GIFT** that will save energy in your home!

Date:

Time:

Location:

Sample Flier or Invitation for Promoting Your Powerware Party

(To customize this MS Word flier, download it from www.FrederickCountyMD.gov/GreenHomes)

GREEN HOMES CHALLENGE
FREDERICK COUNTY, MD

POWERWARE PARTY!

You're Invited!

[Date,
Time,
Location]

No cookware, containers, or jewelry... just food, fun, demonstrations and activities to help us become more "power-aware" and reduce our utility bills! Come learn how to save our energy and bank your money! Everyone receives an energy saving GIFT.

HOST: [Name]
RSVP by [Date]: [Email Address]; [Phone Number]

SUSTAINABLE FREDERICK COUNTY

A Sustainable Community Starts at Home!

The Green Homes Challenge and Powerware Parties are initiatives of the Frederick County Office of Sustainability and Environmental Resources.
www.FrederickCountyMD.gov/GreenHomes ◆ 301.600.7414 ◆ GreenHomes@FrederickCountyMD.gov

GREEN HOMES CHALLENGE
FREDERICK COUNTY, MD

Are you motivated to inspire others to take action for a greener home, community, or planet? Are you part of an affiliated group through work, worship, school, or community activities?

Be a Green Ambassador!

What is a Green Ambassador?

A Green Ambassador serves as a volunteer leader for one year and commits to motivating others to become more energy efficient, adopt environmentally-friendly lifestyles, and use renewable energy. It's a flexible role; there is no set schedule or required number of volunteer hours. You can serve individually or pair up with another Green Ambassador in the community you wish to serve. Green Ambassadors may use the Green Homes Challenge tools and resources and implement their own creative ideas and strategies! You can serve as a Green Ambassador almost anywhere… in your workplace, school, place of worship, homeowner's or neighborhood association, civic or recreational organization, mom's or singles club, or youth or scouting group.

Our goal
is to engage 2,000 households in the Green Homes Challenge by 2014! Can you help us get there?

What types of things can Green Ambassadors do?

Green Ambassadors choose at least one of these primary roles:

- Host at least two Powerware Parties,
- Navigate people through the Green Homes Challenge certification process,
- Lead or organize a "Green Team" that meets regularly to support group progress, or
- Provide outreach assistance for the Challenge by helping to staff booths at community events or presenting to community or school groups.

If you decide to get more involved, you can also:

- Implement a Green Homes Challenge registration drive,
- Set up an online social networking group to keep people motivated and informed about group progress,
- Organize discussion groups, demonstration workshops, or potluck meals, or
- Distribute information and resources door-to-door.

What qualities make a good Green Ambassador?

Successful Green Ambassadors are:

- Known and respected in their affiliated community,
- Outgoing, friendly, engaging and responsive,
- Organized and proactive,
- Easily accessible through person-to-person visits, email, phone, or social networking tools,
- Passionate about promoting energy conservation and sustainability, and
- Motivated to "walk the talk" and lead by example!

What Responsibilities would I have as a Green Ambassador?

Requirements are minimal but include:

- Filling out the Green Ambassador Registration and Commitment Form,
- Submitting a simple Monthly Green Ambassador Update documenting the types of things you have done in your community, how many people have been engaged, and hours spent volunteering,
- Filling out occasional online surveys about your experience as a Green Ambassador,
- Maintaining communication with the Green Homes Challenge staff, and
- Registering with the Green Homes Challenge and working towards Power Saver, Green Leader, and/or Renewable Star Certification.

How will Green Ambassadors be Supported?

Green Ambassadors will receive:

- One-on-one orientation and training by Office of Sustainability and Environmental Resources (OSER) staff,
- On-going one-on-one consultation and support through periodic phone calls and email messages from OSER staff,
- Opportunities to network with other Green Ambassadors, and
- Up to $500 in mini-grants for implementing projects or initiatives (limited availability).

Resources available to Green Ambassadors:

- Copies of the Green Homes Challenge brochures and handbooks,
- Brochures and resources from partner agencies and organizations,
- Free incentive gifts to distribute,
- OSER presenters for Powerware Parties, workshops, and other events, and
- The Low Carbon Diet or Green Living Handbook for leading Green Teams (per book cost $11-$15)

What are the Perks?

Each Green Ambassador receives:

- A Green Homes Challenge name badge and business cards, upon request.
- Recognition through the Green Homes Challenge web pages and other venues.
- Leadership experience to add to your resume.
- The priceless feeling of knowing that you're making a difference for our children's, community's, and planet's future well being!

For more information about the Green Homes Challenge or becoming a Green Ambassador, contact the Green Homes Challenge Coordinator at 301.600.7414 or GreenHomes@FrederickCountyMD.gov.

Green Ambassador Application & Commitment Form

Name: _____Date: _____

Street Address: _____

City, State, Zip: _____

Day Phone: _____ Evening Phone: _____ Cell: _____

Email Address:_____

Name of affiliated community in which you want to serve as a Green Ambassador (business, place of worship, community organization, neighborhood, etc.): _____

Please estimate how many people comprise this community: _____

Address (if applicable), or zip code, for this community:_____

_____

Will you be pairing up with another Green Ambassador in your community? ❑ YES ❑ NO

If yes, please provide the name of your Green Ambassador partner: _____

If you do not have a partner Green Ambassador identified, would you like us to connect you with a current Green Ambassador? ❑ YES ❑ NO

Please briefly describe why you are interested in serving as a Green Ambassador:

_____

_____

_____

Please select at least one primary role that you will fill as a Green Ambassador:

❑ Host at least two Powerware Parties

❑ Navigate people through the Green Homes Challenge certification process

❑ Lead or organize a "Green Team" that meets regularly to support group progress

❑ Provide outreach assistance for the Challenge by helping to staff booths at community events or presenting to community or school groups.

If you have other ideas of the types of things you might like to do as a Green Ambassador, please share them here:

_____

_____

Please list three dates and times when you would be available for a one-on-one Green Ambassador orientation at the Office of Sustainability and Environmental Resources at 30 N Market St, Frederick. Preferred dates and times are Monday – Friday, between 8am and 5pm (Interviews are typically held within 1-2 weeks of receiving your application).

_____ _____ _____

What month/year do you want to begin serving as a Green Ambassador? _____

Please initial:

___I commit to serving as a Green Ambassador for one year.

___I commit to tracking my volunteer hours and keeping the OSER staff informed of my community's Green Homes Challenge activities by submitting the Quarterly Green Ambassador Update Form to GreenHomes@FrederickCountyMD.gov, or providing an update regarding my availability if I have no activities to report.

Signature: _____ Date: _____

Fillable form also available at *www.FrederickCountyMD.gov/GreenHomes*

MAIL, FAX OR EMAIL TO:

Green Homes Challenge Coordinator, 30 North Market Street, Frederick, MD 21701

Fax: 301.600.2054 • Email: GreenHomes@FrederickCountyMD.gov

Office Use Only:

Reviewed by: _____ Date:_____

Accepted? ❑ Yes ❑ _No ❑ Further follow up needed for decision.

I'm Taking the Green Homes Challenge!

Please fill out the following information. Items with * are required:

*FAMILY OR HOUSEHOLD NAME (e.g. The Jones, or The Smith-Jones Household) _____

*HOUSEHOLD CONTACT NAME: _____

*PHYSICAL STREET ADDRESS: _____

*CITY, STATE, ZIP CODE:_____

*EMAIL ADDRESS_____*DAYTIME PHONE NUMBER: _____

MAILING ADDRESS (if different from above):_____

I would like to participate in the (select all that apply):

❑ Power Saver Challenge

❑ Green Leader Challenge; Please give/send me my FREE home soil test kit ❑ Yes ❑ No

❑ Renewable Star Challenge

*GREEN HOMES CHALLENGE PLEDGE! *I PLEDGE to*

- Take action at home to reduce my household's environmental impact, and
- Keep the Challenge staff informed of my progress by responding to periodic surveys, emails, or phone inquiries.

**Signature:* _____

If you do not wish to have your name or photos used in our GHC promotional materials or media releases please initial here to opt-out. _____

RESOURCES!

Handbook Request:

❑ Please give/send me a hard copy Power Saver Handbook.

❑ I'll use the online Power Saver Handbook.

Newsletter Request:

❑ Keep me informed about energy, green living, and sustainability. Sign me up to receive Sustainable Frederick County's quarterly electronic newsletter.

HOW CAN WE BEST SUPPORT YOU?

❑ Navigator Request: I'd like a one-on-one "Navigator" to guide me to energy saving resources and help me achieve my goals.

❑ Give Me Time to Act on My Own, Then Follow-Up: I am a "do-it-yourself" person but also really busy! I'll take action on my own, but I'll be receptive to follow-up or periodic check-in calls.

❑ Prefer to Act Independently: I am a "do-it-yourself" person and do not want very much outside support.

❑ Green Team Request: I'd like to meet regularly with people in my community or network to stay motivated to achieve Power Saver goals. Help me get a Green Team started.

Continued

OUR PRIMARY INTERESTS

(select all that apply, and then circle the check mark next to your most important priority):

_____ Saving money on utility bills
_____ Energy conservation and learning what to do to save energy
_____ Renewable energy systems
_____ Reducing our household's impact on the environment
_____ Adopting greener behaviors and creating a healthier living environment in our home
_____ Concerns about Climate Change or Global Warming
_____ Making our home more comfortable in summer and winter
_____ I want to help create a better future for our children and future generations by conserving natural resources
_____ Other: _____

INTERESTED IN HELPING OTHERS?

I may be interested in helping to inspire my friends, colleagues, or neighbors to save energy and go green by…
(check all that apply)

❑ Hosting a Powerware Party, a fun, interactive gathering that increases "power awareness". Contact me and tell me more.

❑ Serving as a Green Ambassador to promote green initiatives in my network or community. Contact me and tell me more.

OUR HOUSEHOLD:

We live in a:

❑ Detached single family home ❑ A duplex or townhouse ❑ A multi-family apartment/condo

Year built: _____ Approximate square footage: _____

We:

❑ Own our home ❑ Rent our home

Total members in household: _____

Number of residents (optional):

Under age 18: _____ Ages 18 – 55: _____ Ages 55+: _____

Approximate Annual Income (optional):

❑ Less than $50,000 ❑ $50,000 - $100,000 ❑ $101,000 - $150,000 ❑ $151,000 - $200,000 ❑ Over $200,000

Our Household Members are (optional): *select all that apply*

❑ African American ❑ Asian ❑ Caucasian ❑ Hispanic ❑ Native American ❑ Mixed Race

❑ Other: _____

Registration can also be completed online at *www.FrederickCountyMD.gov/GreenHomes*

MAIL, FAX OR EMAIL TO:

Green Homes Challenge Coordinator, 30 North Market Street, Frederick, MD 21701

Fax: 301.600.2054 • email: GreenHomes@FrederickCountyMD.gov

GREEN HOMES CHALLENGE
FREDERICK COUNTY, MD

Green Homes Challenge
Your Energy Saving Action Plan

RESIDENT/HOMEOWNER:_____ Date Form Submitted:____/____/____

ADDRESS: _____

DAYTIME PHONE: _____

EMAIL:_____

DATE OF AUDIT:_____

AUDITOR/COMPANY: _____

After discussing your home energy audit findings with your auditor, please identify one key recommended improvement or retrofit project that (1) would result in significant energy and utility bill savings for your household, and (2) your household could commit to completing in the next 6 months (if identified obstacles could be addressed; see below.)

TARGETED ACTION: _____

APPROXIMATE RANGE OF PROJECT COST: _____

ESTIMATE OF ENERGY SAVINGS AND/OR ANNUAL UTILITY COST SAVINGS: _____

COMPLETION DATE GOAL (within 6 months):_____ **DATE COMPLETED:** _____

Please list 3 other energy saving actions recommended by your home energy auditor that you would consider implementing in the next year:

1) _____

2) _____

3) _____

CHALLENGES?

If you anticipate challenges and would like support from the Green Homes Challenge staff, please complete the rest of this form and contact the Green Homes Challenge Coordinator by mail, fax, phone, or email.

❑ I need assistance installing the energy saving devices provided by the Watt Watchers home energy auditor (low-flow showerhead, faucet aerators, or CFL bulbs to be installed in hard-to-reach locations).

❑ My targeted project will be very challenging to implement in the next 6 months due to the following obstacles or challenges:

- ❑ Too expensive
- ❑ Do not know who to hire to implement the project
- ❑ Do not know how to do the project
- ❑ Do not have time to implement or coordinate the project
- ❑ Other: _____

❑ Please have an OSER representative contact me about resources or strategies to address obstacles.

❑ I am interested in learning about loan opportunities or other financial resources to implement this project.

Fillable form also available at *www.FrederickCountyMD.gov/GreenHomes*

MAIL, FAX OR EMAIL TO:

Green Homes Challenge Coordinator, 30 North Market Street, Frederick, MD 21701

Fax: 301.600.2054 • Email: GreenHomes@FrederickCountyMD.gov

Green Homes Challenge

Power Saver Certification Form

(Form also available at www.FrederickCountyMD.gov/GreenHomes)

Use this form to track your total Green Points earned for completing Power Saver Steps and Energy Actions. If you complete the required steps (R) and your Total Points add up to 50, then you are ready to submit your Power Saver Certification Form! The values you submit will be used to track energy savings and greenhouse gas emissions reductions achieved through the Green Homes Challenge (GHC). You will receive Green Points for your actions completed prior to and during your involvement with the Challenge.

Household Name (as you would like it to appear on recognition materials): _____

Contact Person: _____Daytime Phone: _____Email Address: _____

Power Saver Steps

	Completed Before GHC (Check one or both in each row.)	Completed During GHC	Green Points
1. Register and Become More Power-Aware			
Register with the Green Homes Challenge (R)	❑	❑	1
Take the Green Homes Challenge Pre-Survey (R)	❑	❑	1
Attend a Powerware Party	❑	❑	1
2. Prepare for your Home Energy Audit			
Learn what to expect and how to prepare for your home energy audit	❑	❑	1
Try out some great online home energy analyzers	❑	❑	1
3. Schedule and Conduct your Home Energy Audit			
Choose the type of audit you want (R)	❑	❑	3
4. Complete your Energy Saving Action Plan & Project			
Complete your Energy Saving Action Plan (R)	❑	❑	1
Complete your Energy Saving Home Improvement Project (R)	❑	❑	3
5. Track Your Energy Use			
Keep track of your household's electricity usage	❑	❑	2
Read your power meter monthly and submit kWh usage to Potomac Edison	❑	❑	1
Use a home energy monitoring device	❑	❑	2
6. Implement Additional Energy Saving Actions			
Use the Catalog of Energy Saving Actions to earn additional points (see next page)	❑	❑	
7. Volunteer & Leadership Options and Bonuses (Optional)			
Host a Powerware Party	❑	❑	2
Become a Green Ambassador	❑	❑	4
8. Apply for Power Saver Certification			
Fill out and submit the Power Saver Certification Form (this form) (R)	❑	❑	1
		TOTAL EARNED	/24

Energy Actions

Top 5 Picks

	Completed Before GHC	Completed During GHC	Green Points
	(Check one or both in each row.)		
1. We upgraded our attic insulation. *If yes, then how many square feet of insulation did you install during the GHC?* _____	❑	❑	4
2. We use energy-efficient lighting in at least 85% of our lighting fixtures *If yes, then approximately how many light bulbs did you upgrade during the GHC?* _____	❑	❑	3
3. We manually regulate our thermostat or use an ENERGY STAR® programmable thermostat.	❑	❑	3
4. We sealed our doors, windows, and attic stairs.	❑	❑	2
5. We set up Power Management on our desktop computers and laptops. *If yes, then to how many computers did you apply Power Management during the GHC?* _____.	❑	❑	2
		TOTAL EARNED	/14

Lighting

6. We installed solar light tubes. *If yes, then how many solar light tubes did you install during the GHC?* _____	❑	❑	3
7. We turn off lights in areas that are not being used.	❑	❑	1
8. We substitute natural light for electrical light.	❑	❑	1
9. We use solar walkway lights.	❑	❑	1
10. We use motion sensors for interior and exterior lighting in low use areas (e.g. outdoor floodlights, porch lights, sheds, closets, attics, basements).	❑	❑	1
		TOTAL EARNED	/7

Heating & Cooling

11. We had our HVAC system and ductwork professionally evaluated within the past 10 years. We sealed leaking ducts.	❑	❑	3
12. Based on the results of a professional evaluation, we have replaced our HVAC system with an efficient/ENERGY STAR® certified alternative (or plan to do so in the next 6 months).	❑	❑	3
13. We change our HVAC filters every 3 months.	❑	❑	2
14. We purchased an ENERGY STAR® certified air conditioner within the past year.	❑	❑	2
15. We converted our fireplace or pre-1990 wood stove to a more efficient wood-burning or natural gas stove/fireplace.	❑	❑	2
16. We keep unoccupied rooms closed.	❑	❑	1

Continued

	Completed Before GHC	Completed During GHC	Green Points
	(Check one or both in each row.)		
17. We use bioheat (5% biodiesel fuel) in our oil burning furnance.	❑	❑	2
18. We keep radiators and vents clear.	❑	❑	1
19. We maintain our air conditioner and heat pump.	❑	❑	1
20. We installed ceiling fans.	❑	❑	1
		TOTAL EARNED	/18

Building Envelope, Insulation, & Weatherstripping

21. We installed energy efficient windows in the last 5 years or plan to do so in the next year.	❑	❑	3
22. We installed an inflatable draft-stopper in our fireplace.	❑	❑	2
23. We installed a dryer vent seal.	❑	❑	1
24. We installed foam gasket insulators behind electrical outlets and light switch plates.	❑	❑	1
25. We open and close drapes to help heat and cool our home.	❑	❑	1
26. We use insulated shades or window quilts.	❑	❑	1
27. We made solar heat catchers for our windows in the winter	❑	❑	1
		TOTAL EARNED	/10

Appliances & Electronics

28. We eliminated vampire power/phantom loads by unplugging power adaptors and plugging electronics and appliances into power strips and turning them off when not in use.	❑	❑	2
29. We use a "smart" power strip to manage vampire power.	❑	❑	2
30. We purchased a high-efficiency ENERGY STAR® appliance in the last year and will choose ENERGY STAR® appliances when the time comes to replace other appliances in the future. *If yes, then how many ENERGY STAR® appliances did you purchase?* _____	❑	❑	2
31. We use clothes lines and racks (indoors and/or outdoors) to dry at least half our laundry.	❑	❑	2
32. We use a microwave, outdoor grill, or solar cooker in the summertime and choose small appliances year round.	❑	❑	2
33. We keep our refrigerator's thermostat between 38 and 42°F and clean our refrigerator coils at least twice a year.	❑	❑	2
34. We test the seals on our fridge and freezer and replace them when needed.	❑	❑	2
35. We turn on computer peripherals only when we need them.	❑	❑	1

Continued

	Completed Before GHC	Completed During GHC	Green Points
	(Check one or both in each row.)		
36. We use programmable timers for power tool charging	❑	❑	1
37. We keep our freezer defrosted and raised the thermostat from -5 to between 0 and +5°F.	❑	❑	1
		TOTAL EARNED	/17

Water Conservation & Heating

38. We installed low-flow showerheads	❑	❑	3
39. We installed a high-efficiency/dual flush toilet or conversion kit	❑	❑	3
40. We installed a tankless hot water heater	❑	❑	3
41. We installed an insulating wrap on our hot water heater	❑	❑	2
42. We insulated our hot water pipes	❑	❑	1
43. We set our water heater's maximum temperature to 120°F	❑	❑	2
44. We installed a timer on our pre-1998 electric hot water heater	❑	❑	1
45. We installed low-flow aerators	❑	❑	1
		TOTAL EARNED	/16

Total Points for Power Saver Certification: TOTAL EARNED /106

MAIL, FAX OR EMAIL TO:
Green Homes Challenge Coordinator, 30 North Market Street, Frederick, MD 21701
Fax: 301.600.2054 • Email: GreenHomes@FrederickCountyMD.gov

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Frederick County Office of Sustainability and Environmental Resources

The Frederick County Office of Sustainability and Environmental Resources advances practical solutions for protecting the environment, conserving energy, and living sustainably in Frederick County, Maryland. We integrate sustainable practices into County operations and initiate community programs that support our mission.

The Green Homes Challenge is our first, comprehensive, community initiative in sustainability. A sustainable community starts at home and the Green Homes Challenge educates, inspires, and supports households to take action and help ensure that the energy and natural resources on which we all depend are available for current and future generations.

Participation in the Green Homes Challenge contributes towards the EmPower Maryland initiative established by the EmPOWER Maryland Energy Efficiency Act of 2008. EmPower Maryland calls for reductions in per capita electricity consumption and peak energy demand by 15% by the year 2015.

Frederick County Office of Sustainability and Environmental Resources

Ensuring Our County's Future

30 North Market Street • Frederick, MD 21701

www.FrederickCountyMD.gov/GreenHomes